



ENVIRONMENTAL
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State Wetland Protection

Status, Trends, & Model Approaches

*A 50-state study by the
Environmental Law Institute*

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U.S. Environmental Protection Agency*

2008

Appendix: State Profiles

Mississippi

I. Overview

Wetlands cover 13 percent of Mississippi's land surface and include both freshwater and estuarine wetlands.¹ Bottomland forests, swamps, and freshwater marshes are the most common wetland type in the state, and coastal marshes also are widespread.² Prior to the 1800s, Mississippi contained approximately ten million acres of wetlands. Today less than 40 percent of those wetlands remain. Most historical wetlands were lost to agriculture and timber harvest; however, more recently, development also has become a major threat to wetlands.³ The state's regulatory efforts rely heavily on §401 water quality certification under the Clean Water Act for freshwater wetlands statewide. Coastal wetlands are regulated primarily by the Coastal Wetlands Protection Act (Wetlands Act).

II. Regulatory Programs

Wetland definitions and delineation

Mississippi's definition of state waters includes wetlands. The Mississippi Air and Water Pollution Control Law defines "waters of the state" as:

all waters within the jurisdiction of this State, including all streams, lakes, ponds, wetlands, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, situated wholly or partly within or bordering upon the State, and such coastal waters as are within the jurisdiction of the State, except lakes, ponds, or other surface waters which are wholly landlocked and privately owned, and which are not regulated under the Federal Clean Water Act (33 U.S.C. 1251 *et seq.*).⁴

Coastal wetlands are defined in the Wetlands Act as "all publicly-owned lands subject to the ebb and flow of the tide; which are below the watermark of ordinary high tide; all publicly-owned accretions above the watermark of ordinary high tide and all publicly-owned submerged water-bottoms below the watermark of ordinary high tide and includes the flora and fauna on the wetlands and in the wetlands."⁵

¹ Association of State Wetland Managers, *State Wetland Programs: Mississippi*, at <http://www.aswm.org/swp/mississippi9.htm> (last updated Feb. 7, 2006); U.S. Geological Survey, *National Water Summary on Wetland Resources, State Summary Highlights*, at http://water.usgs.gov/nwsum/WSP2425/state_highlights_summary.html (last modified Mar. 7, 1997).

² *Id.*

³ Mississippi Department of Environmental Quality – Water Quality Certification Branch, *Wetlands Protection*, at http://www.deq.state.ms.us/MDEQ.nsf/page/WQCB_Steam_Wetland_Alteration03?OpenDocument (last modified Oct. 23, 2006).

⁴ MISS. CODE ANN. § 49-17-5(1)(f).

⁵ MISS. CODE ANN. § 49-27-5.

The state uses the criteria set out in the U.S. Army Corps of Engineer's (Corps) 1987 *Wetlands Delineation Manual* to delineate wetlands.⁶ However, many developers are beginning to hire consultants to make wetland determinations, which the Corps reviews and verifies.⁷

Wetland-related statutes and regulations

Mississippi's wetlands are regulated primarily through §401 water quality certifications statewide; however, additional laws govern coastal wetland use and protection.

§401 water quality certification. Any actions that require a federal permit or license, including §404 individual dredge and fill permits and nationwide permits, and will result in discharge into waters of the U.S., require a §401 water quality certification from the Mississippi Department of Environmental Quality (MDEQ), Office of Pollution Control, which administers the program for the state.⁸ The MDEQ and the Corps have a joint application process; thus, a §404 permit application is considered an application for §401 water quality certification. The MDEQ begins reviewing §401 water quality certification applications after the Corps issues its public notice for a §404 permit application.⁹ The Corps may not approve a §404 permit application until the MDEQ has issued its §401 water quality certification.¹⁰ All §404/§401 permit applications are submitted directly to the Department of Marine Resources (MDMR), Wetlands Permitting Bureau when proposed projects are located in coastal wetlands. To facilitate the permit application review process, MDEQ and MDMR strongly recommend that applicants, particularly for large or complex projects, schedule a pre-application meeting.¹¹

The MDEQ rarely waives §401 certifications and usually denies only one or two §401 applications a year. The number of certifications issued each year varies, often with the economy and current affairs (e.g., the continuing effects Hurricane Katrina). For example, between January and November 2006, the MDEQ had issued approximately 125 §401 certifications. Most §401 water quality certification applications are conditionally approved with specific terms that must be met by the applicant, such as measures to protect water quality.¹² Approval decisions are based on a combination of qualitative evaluations and best professional judgment of MDEQ staff. Factors the MDEQ considers when reviewing applications include the degree of physical, chemical, and biological impact on state waters; an applicant's compliance history; and the feasible alternatives to the project.¹³

Coastal Wetlands Protection Act. The MDMR has regulatory authority in the three coastal counties of Mississippi (Jackson, Harrison, and Hancock) in accordance with the Wetlands

⁶ U.S. ARMY CORPS OF ENG'RS, WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1, CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL (1987), *available at* <http://www.saj.usace.army.mil/permit/documents/87manual.pdf>.

⁷ Personal Communication with Robert Seyfarth, Miss. Dep't of Env'tl. Quality (Nov. 7, 2006).

⁸ Mississippi Department of Environmental Quality, Water Pollution Control Regulations-1, Chapter 3, Section I.

⁹ *Id.*

¹⁰ Mississippi Department of Environmental Quality – Water Quality Certification Branch, *supra* note 3.

¹¹ Personal Communication with Robert Seyfarth, Miss. Dep't of Env'tl. Quality (Jan. 18, 2007).

¹² Seyfarth, *supra* note 7.

¹³ Mississippi Department of Environmental Quality Water Pollution Control Regulations-1, Chapter 3, Section IV (A).

Act.¹⁴ The Wetlands Act requires the MDMR to review permits for all regulated activities¹⁵ that affect coastal wetlands.¹⁶ Generally, the Corps' Mobile and Vicksburg Districts issue Regional General Permits for minor structures and activities that impact waters of the United States in addition to their Nationwide Permits; however, the MDMR issues Regional General Permits on behalf of the Corps in the three coastal counties as established through a Memorandum of Agreement (MOA).¹⁷ Permit applications are submitted directly to MDMR on a Joint Application and Notification form. For projects that do not meet the Regional General Permit guidelines and require an Individual Permit, the Corps issues a §404 permit and the MDMR issues a separate permit with a coastal consistency determination. Individual Permit determinations are made by the Commission on Marine Resources.¹⁸ The MDMR coordinates application review with the Corps, the MDEQ, local governments, and adjacent landowners.¹⁹ Both Regional General Permits and Individual Permits require a §401 water quality certification. If the MDMR determines a permit is not consistent with its regulations and programs, then the MDEQ and the Corps also will deny the permit without prejudice.²⁰ Additionally, if the MDEQ or Mississippi Department of Archives and History object to a project, then the MDMR must, by law, deny federal consistency without prejudice.²¹

Organization of state agencies

The majority of wetland-related, state-level activities in Mississippi are overseen by the MDEQ and the MDMR. The role of the MDEQ is exclusively regulatory, while the MDMR plays both a regulatory and non-regulatory role in regards to wetlands protection and management.

Mississippi Department of Environmental Quality. Under the Air and Water Quality Pollution Control Law, the MDEQ, Office of Pollution Control, Environmental Permits Division, Water Quality Certification Branch administers §401 water quality certifications statewide. This branch is responsible for reviewing, issuing, and tracking certifications; monitoring projects to ensure compliance with certification conditions; and enforcement. No formal monitoring or enforcement programs are in place due to funding restraints.²² Regulatory activities take place in the main office in Jackson, but cover the entire state.²³ Four full-time equivalents (FTE) (three staff positions and one manager) are devoted to permitting and related activities. These staff are funded by state general funds and federal grants conferred from the U.S. Environmental Protection Agency (EPA).²⁴

¹⁴ MISS. CODE ANN. §§ 49-27-1, 49-27-71.

¹⁵ MISS. CODE ANN. § 49-27-5(c). Regulated activities include dredging, filling or dumping, killing or damaging flora or fauna, and building any structure that would disrupt the tide's ebb and flow or structures on suitable sites for water dependent industries.

¹⁶ MISS. CODE ANN. §§ 49-27-5(a), 49-27-9(1).

¹⁷ Memorandum of Understanding (MOU) is authorized. MISS. CODE ANN. § 57-15-5(4), -6(4). *See also* Mississippi Department of Marine Resources, *Mississippi Coastal Zone Wetlands Permits*, at http://www.dmr.state.ms.us/Coastal-Ecology/Permitting/mississippi_coastal_zone_wetland.htm (last visited Mar. 22, 2007).

¹⁸ Personal Communication with Jan Boyd, Miss. Dep't of Marine Res. (Nov. 16, 2006).

¹⁹ Personal Communication with Jill Bockenstette, Miss. Dep't of Marine Res. (Nov. 15, 2006).

²⁰ *Id.*

²¹ Personal Communication with Jan Boyd, Miss. Dep't of Marine Res. (Jan. 18, 2007).

²² Seyfarth, *supra* at 7.

²³ *Id.*

²⁴ *Id.*

The Field Services Division (FSD) provides scientific and technical assistance and support to the agency. Although the FSD is responsible for monitoring waters of the state, there are currently no FTEs devoted to wetlands monitoring. Within the FSD, the Surface Water Monitoring Section is responsible for monitoring surface waters, which have historically been focused on lakes, streams, and estuaries. Funding for these activities comes from state general funds and EPA grants.²⁵

The Surface Water Division's Standards, Modeling, and TMDL Branch is responsible for developing and adopting the state's surface water designated uses, Water Quality Standards, and antidegradation policy as required by the Clean Water Act. It also is responsible for administering the triennial review of the Water Quality Standards.²⁶

MDEQ's Office of Land and Water Resources, Monitoring and Permitting Division focuses mainly on water quantity and use issues, but within that role it receives and processes permit applications to divert, store, and withdraw waters of the state.²⁷ The Surface Water Division assists with surface water quality monitoring and conducting research on streams to determine minimum flow requirements.²⁸

Mississippi Department of Marine Resources. The MDMR was established in 1994 by the state legislature to protect and manage the state's marine resources, public trust coastal wetlands, adjacent uplands, and waterfront lands for long-term public benefit. The MDMR operates under the authority of the Commission on Marine Resources.^{29,30} The agency also is responsible for evaluating coastal wetlands, promoting coastal wetlands education,³¹ and developing a Coastal Zone Management Plan for use of coastal wetlands as outlined in the federal Coastal Zone Management Act.³² The MDMR manages coastal wetlands primarily through administration of the Wetlands Protection Act. The Bureau of Wetlands Permitting is responsible for reviewing all Regional General Permit and Individual Permit applications for projects in the three coastal counties. It also deals with compliance, enforcement, and mitigation issues. The number of full-time equivalents (FTE) at the Wetlands Permitting Bureau varies ranging from eight to ten people depending on the time of year. Most FTE work exclusively on permitting, but often one

²⁵ Personal Communication with Henry Folmar, Miss. Dep't of Env'tl. Quality (Nov. 14, 2006).

²⁶ Mississippi Department of Environmental Quality – Standards, Modeling, and TMDL Branch, *Water Quality Standards*, at http://www.deq.state.ms.us/MDEQ.nsf/page/WMB_Water_Quality_Standards?OpenDocument (last modified Feb. 27, 2007).

²⁷ Mississippi Commission on Environmental Quality Regulation LW-2, *Surface Water and Ground Water Use and Protection* at <http://www.deq.state.ms.us/newweb/MDEQRegulations.nsf/RN/LW-2> (last visited June 28, 2007).

²⁸ Department of Water Quality, Office of Land and Water, Surface Water Division, at http://www.deq.state.ms.us/MDEQ.nsf/page/L&W_Surface_Water?OpenDocument (last visited June 28, 2007).

²⁹ Commission on Marine Resources was established by the Marine Resources Law to plan for the development, use, and study of coastal and marine resources and to enter into agreements with private, state, and federal agencies to carry out its policies. See MISS. CODE ANN. §§ 57-15-3(1), 57-15-5(1), 57-15-5(4).

³⁰ Mississippi Department of Marine Resources, *About Us*, at http://www.dmr.state.ms.us/DMR/about_the_mississippi_department.htm (last visited June 28, 2007).

³¹ MISS. CODE ANN. § 49-27-65.

³² MISS. CODE ANN. § 57-15-5(6).

person is dedicated to mitigation.³³ This program is primarily funded through federal Coastal Zone Management Grants.³⁴

The MDMR also administers the Coastal Preserves Program. This non-regulatory program was established in 1992 to protect, conserve, and restore coastal areas. Currently, 20 Coastal Preserves have been delineated, and they cover a total of 72,000 acres. The Preserves contain mainly estuarine marshes (85 percent), but also islands and upland areas. The state owns 35,000 acres, the federal government owns 10,000 acres, and the remaining area is privately-owned.³⁵ Five FTEs (four staff members and one manager) are dedicated to the Coastal Preserves Program. All FTEs are responsible for conducting monitoring activities, restoration activities, and public outreach and education programs. The four staff members are funded by Coastal Zone Management funding and the manager is funded by DMR programmatic funds.³⁶ The Mississippi Secretary of the State also provides some financial support for land management to this Program using Tidelands Funds through an MOA.³⁷

All MDMR employees are based in and work out of the main office in Biloxi, Mississippi.³⁸

Mississippi Department of Wildlife, Fisheries, and Parks. The Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) has no regulatory authority in regards to wetlands, but it may review §404/401 applications and provide comments to the MDEQ. The MDWFP also allows applicants for these permits to carry out restoration work on MDWFP lands that contain degraded wetlands. However, this is not an established program.³⁹ It also administers the Landowner Incentive Program (for more detail see *V. Restoration and Partnerships*) and the Natural Science Museum, which has a wetlands education program as a part of its larger education program. The Museum staffs this Program with one coordinator, three full-time staff for K-12 programs, one full time staff person for pre-K, and one part-time staff person.⁴⁰

Nationwide permits

The MDEQ reviews and issues a §401 water quality certification for the Corps' Nationwide Permits (NWP).⁴¹ It has conditionally approved all 2002 NWPs except NWP # 21 (Surface Coal Mining Activities) and # 44 (Mining Activities). Both were denied certification. For 28 conditionally approved NWPs, the MDEQ established a list of four §401 water quality certification conditions applicable to each permit.⁴² For 13 NWPs, the MDEQ established specific conditions.⁴³

³³ Bockenstette, *supra* note 19.

³⁴ Boyd, *supra* note 18.

³⁵ Personal Communication with Jeff Clark, Miss. Dep't of Marine Res. (Nov. 2, 2006).

³⁶ *Id.*

³⁷ MEMORANDUM OF UNDERSTANDING MISSISSIPPI DEPARTMENT OF MARINE RESOURCES, COASTAL PRESERVES PROGRAM, *available at* <http://www.dmr.state.ms.us/Coastal-Ecology/Preserves/Laws/MemorandumofUnderstanding.pdf> (last visited June 28, 2007).

³⁸ Boyd, *supra* note 18.

³⁹ Personal Communication with John Tindall, Miss. Dep't of Wildlife, Fisheries, and Parks (Nov. 7, 2006).

⁴⁰ Personal Communication with Georgia Spencer, Miss. Dep't of Wildlife, Fisheries, and Parks, Natural Science Museum (Nov. 13, 2006).

⁴¹ The Nationwide Permits are issued for five years and are currently under review for re-issuance.

⁴² The Nationwide Permits that the MDEQ has conditionally approved with four general conditions are: NWP #1 – Aids to Navigation; NWP #2 – Structures in Artificial Canals; NWP #3 – Maintenance; NWP #4 – Fish and

The MDMR also reviews NWP's to determine consistency with the Mississippi Coastal Program. It determined that NWP's #18 (Minor Discharges), #29 (Single-Family Housing), and #44 (Mining Activities) were not consistent the Coastal Program; therefore, all applicants must seek a consistency or a waiver from MDMR before beginning any work on a proposed project. The MDMR has given unconditional coastal zone consistency for 29 NWP's.⁴⁴ It also has asked that Regional General Permits be used in place of NWP # 2, 4, 9, 13, 19, 31, and 36.⁴⁵

Although the Corps has reissued the NWPS in March 2007, regional conditions were not finalized as of early 2007.⁴⁶

Mitigation

The State of Mississippi has not adopted legislation regarding compensatory mitigation for wetlands, and the MDEQ generally defers to the Corps for wetland-related jurisdictional and mitigation issues. The Corps also has sole responsibility for stream mitigation standards and procedures.⁴⁷

However, the MDEQ has a policy that requires wetland impacts be mitigated within the same stream basin where the impact occurred.⁴⁸ The MDMR has in-house guidelines related to mitigation requirements, such as specific ratios when carrying out wetland preservation or restoration work, and the MDMR develops criteria to evaluate mitigation construction and

Wildlife, Harvesting, Enhancement and Attraction Devices and Activities; NWP # 5 –Scientific Measurement Devices; NWP #6 – Survey Activities; NWP # 7 – Outfall Structures and Maintenance; NWP #8 – Oil and Gas Structures; NWP #9 – Structures in Fleeting and Anchorage Areas; NWP # 10 – Mooring Buoys; NWP #11 – Temporary Recreation Structures; NWP #13 – Bank Stabilization; NWP # 15 – U.S. Coast Guard Approved Bridges; NWP #16 –Return Water From Upland Contained Disposal Areas; NWP #17 – Hydropower Projects; NWP #19 – Minor Dredging; NWP #20 – Oil Spill Clean Up; NWP #22 – Removal of Vessels; NWP #23 – Approval Categorical Exclusions; NWP #24 – State Administered Section 404 Programs; NWP #25 – Structural Discharges; NWP #30 – Moist Soil Management for Wildlife; NWP #32 – Completed Enforcement Actions; NWP #33 – Temporary Construction Access, and Dewatering; NWP #34 – Cranberry Production Activities; NWP #35 – Maintenance Dredging of Existing Basins; NWP #37 – Emergency Watershed Protection and Rehabilitation; NWP #38 – Cleanup of Hazardous and Toxic Waste. SEE U.S. ARMY CORPS OF ENG'RS, VICKSBURG DIST., REGIONAL CONDITIONS FOR NATIONWIDE PERMITS IN MISSISSIPPI, *available at* <http://www.mvk.usace.army.mil/offices/od/odf/REGION%20CONDS%20FOR%20NWP%20MS.doc> (last visited June 28, 2007).

⁴³ The Nationwide Permits that the MDEQ has conditionally approved with specific conditions for each permit are: NWP #12 – Utility Line Activities; NWP #14 – Linear Transportation Crossings; NWP #18 – Minor Discharges; NWP #27 – Stream and Wetland Restoration Activities; NWP #28 – Modification of Existing Marinas; NWP #29 – Single-Family Housing; NWP #31 – Maintenance of Existing Flood Control Facilities; NWP #36 – Boat Ramps; NWP #39 – Residential, Commercial and Institutional Developments; NWP #40 – Agricultural Activities; NWP #41 – Reshaping Existing Drainage Ditches; NWP #42 – Recreational Activities; NWP #43 – Storm Water Management Facilities. *Id.*

⁴⁴ The Mississippi Department of Marine Resources (MDMR) has given unconditional coastal zone consistency for the following NWP's: 1, 3, 5-8, 10-12, 14-17, 20-23, 25, 27, 30, 32, 33, 35, 37-43. *Id.*

⁴⁵ *Id.*

⁴⁶ U.S. Army Corps of Engineers, Vicksburg District, *Regulatory Program*, at <http://www.mvk.usace.army.mil/offices/od/odf/main.htm> (last visited June 28, 2007).

⁴⁷ Seyfarth, *supra* note 7.

⁴⁸ Personal Communication with Robert Seyfarth, Miss. Dep't of Env'tl. Quality (Nov. 14 2006).

performance.⁴⁹ It also works closely with the Corps' Mobile District on mitigation-related activities.⁵⁰

There are numerous mitigation banks in Mississippi. Several are owned and managed by non-profit organizations such as The Nature Conservancy, but most are privately owned. The Mississippi Department of Transportation (MDOT) is the only state agency authorized to help establish and oversee banks; however, MDOT does not manage the banks.⁵¹ The MDEQ, the MDMR, and the MDWFP are active participants on the interagency Alabama/Mississippi Mitigation Banking Review Team in coordination with the Corps' Mobile and Vicksburg Districts.⁵² The MDEQ has researched in-lieu fee programs, but currently has no established programs.⁵³

Tracking systems

The MDEQ has a tracking system called *enSite* that tracks permitting and compliance activities for agency permits including §401 certifications. Information such as public notices and issued §401 certifications are made available to the public through an online version of the database called *enSearch*. A record of complaints also is available on the MDEQ website. The MDEQ is in the process of determining how to incorporate GIS data into the database to map project locations and determine their proximity to potential mitigation sites.⁵⁴

The MDMR permitting and mitigation tracking databases were destroyed during Hurricane Katrina. The agency is rebuilding a database that will house both permitting and mitigation tracking information,⁵⁵ such as impacts from projects, mitigation activities, and site inspections.⁵⁶

Compliance and enforcement

Enforcement actions under the state's Air and Water Pollution Control Law apply but are not specific to wetlands. Enforcement options under this law include civil actions and injunction proceedings, enforceable by the MDEQ. Civil penalties may be up to up to \$25,000 per violation per day and include the cost of restoration and restocking any water body where fish or wildlife has been destroyed.⁵⁷ The MDEQ Water Quality Certification Branch may use these enforcement options to correct or prevent water quality impacts that result from construction or operations where a §401 certification has been issued. However, the Corps usually takes administrative action on §404/401 violations or refers the case to the EPA.⁵⁸

⁴⁹ Boyd, *supra* note 18.

⁵⁰ Bockenstette, *supra* note 19.

⁵¹ MISS. CODE ANN. § 65-1-51; Personal Communication with Wes Stafford, Miss. Dep't of Transp. (Nov. 14, 2006).

⁵² Seyfarth, *supra* note 7; Clark, *supra* note 35; Tindall, *supra* note 39.

⁵³ Seyfarth, *supra* note 7.

⁵⁴ *Id.*

⁵⁵ Bockenstette, *supra* note 19.

⁵⁶ Boyd, *supra* note 18.

⁵⁷ MISS. ANN. CODE §§ 49-17-43(1), 49-17-43(2), 49-17-43(8).

⁵⁸ Seyfarth, *supra* note 7. *See also* Mississippi Department of Environmental Quality Regulations, Water Pollution Control-1, Chapter 3, Section V.

Enforcement actions under the Wetlands Act include criminal prosecution and penalties and civil penalties for violations to any provision of the Act, regulations promulgated pursuant to the Act, or any permit terms and conditions. Civil penalties may not exceed \$500 per day and violators are responsible for restoring the coastal wetland to the condition prior to the violation. If a violation is considered a misdemeanor, criminal penalties may range from \$100 to \$1,000, or more than 30 days imprisonment, or both.⁵⁹ Additionally, if work is performed in coastal wetlands prior to obtaining appropriate permits, then the applicant may be fined between \$500 and \$1,000 for residential work and between \$1,000 and \$10,000 for commercial and industrial work.⁶⁰ In practice, enforcement options are rarely pursued.⁶¹

III. Water Quality Standards

Mississippi has not adopted water quality standards (WQS) specific to wetlands, although state standards do apply to surface waters. Surface WQS outline numeric and narrative water quality standards.⁶² Regulations do not identify designated uses specifically for wetlands, but do classify waters for fish and wildlife, which by default can encompass wetlands.⁶³ The state antidegradation policy also is not specific to wetlands, but does prohibit “degradation of water quality [that may] interfere with or become injurious to existing instream water uses.” The policy also provides that, where “high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.”⁶⁴

IV. Monitoring and Assessment

Mississippi does not have a formal, statewide wetlands monitoring and assessment program. The MDEQ FSD has a water quality assessment program for state surface waters; however, the methodologies were developed specifically for streams, lakes, and bays.⁶⁵ Basic standards for water quality assessment methodologies include biological, physical, and chemical standards,⁶⁶ and most monitoring data are primarily used for developing 305(b) reports.⁶⁷ Wetlands monitoring is a recognized need; however, it is not an immediate priority. For wetlands monitoring to occur, the MDEQ needs to develop water quality standards for wetlands, and the

⁵⁹ MISS. ANN. CODE §§ 49-17-55, 49-17-57.

⁶⁰ MISS. ANN. CODE § 49-17-51(1).

⁶¹ Personal Communication with Jan Boyd, Miss. Dep’t of Marine Res. (Nov. 17, 2006).

⁶² MISS. COMM’N ON ENVTL. QUALITY REGULATION, WATER POLLUTION CONTROL-2: WATER QUALITY CRITERIA FOR INTRASTATE, INTERSTATE AND COASTAL WATERS (June 27, 2003), *available at* <http://www.deq.state.ms.us/newweb/MDEQRegulations.nsf/RN/WPC-2>.

⁶³ Seyfarth, *supra* note 7.

⁶⁴ MISSISSIPPI COMMISSION ON ENVIRONMENTAL QUALITY REGULATION WATER POLLUTION CONTROL-2: WATER QUALITY CRITERIA FOR INTRASTATE, INTERSTATE AND COASTAL WATERS, § I(1) (June 27, 2003), *available at* <http://www.deq.state.ms.us/newweb/MDEQRegulations.nsf/RN/WPC-2>.

⁶⁵ Folmar, *supra* note 25.

⁶⁶ MISSISSIPPI COMMISSION ON ENVIRONMENTAL QUALITY REGULATION, WATER POLLUTION CONTROL-2: WATER QUALITY CRITERIA FOR INTRASTATE, INTERSTATE AND COASTAL WATERS, *supra* note 62.

⁶⁷ Folmar, *supra* note 25.

FSD needs to develop monitoring protocols that would allow for assessments based on these criteria.⁶⁸

The MDEQ Water Quality Certification Branch is authorized to inspect sites to ensure compliance with §401 certification conditions,⁶⁹ but the monitoring that takes place is informal and not necessarily specific to wetlands.⁷⁰

The MDMR currently uses two wetland assessment methodologies: the Wetlands Rapid Assessment Procedures (WRAP) and the Hydrogeomorphic (HGM) Approach. HGM is used for pine savannahs and was developed with funding from an EPA grant.⁷¹ The MDMR has worked with the Corps, Alabama, and the U.S. Fish and Wildlife Agency to develop two new functional assessment tools: the tidal fringe HGM and headwaters slope riverine HGM.⁷²

V. Restoration and Partnerships

Mississippi does not operate a formal, state-level, wetland restoration program; however, the MDMR conducts restoration activities through its Coastal Preserves Program. The Program works with other state, local, federal, private, and public entities to preserve and restore wetlands within the 20 Coastal Preserves. Specific activities include restoring native species in areas that have been damaged by ditching and filling. The Program has a prioritization plan for restoring wetlands and uses the state's GIS program, called MARIS, to assist with this process. Most projects, however, are implemented based on available funding opportunities. The Program also is actively working with private landowners to acquire more land within the 20 Preserves. Although the Coastal Preserve Program has no formal partnership with private landowners, staff members may provide private landowners with information on issues such as invasive species or carry out activities for landowners such as prescribed burnings and herbicide applications.⁷³

The MDMR also will receive funding from the Coastal Impact Assistance Program (CIAP), which was created by the Energy Policy Act of 2005 through an amendment to the Outer Continental Shelf Lands Act.⁷⁴ Mississippi will be given an estimated \$120 million beginning in the fall of 2007 for a variety of uses including "projects and activities for the conservation, protection, or restoration of coastal areas, including wetland." The MDMR and the local governments of Jackson, Hancock, and Harrison counties are developing a *4-Year Coastal Impact Assistance Plan*, which is required to receive CIAP funding.⁷⁵

⁶⁸ Personal Communication with Henry Folmar, Miss. Dep't of Env'tl. Quality (Jan. 18, 2007).

⁶⁹ Mississippi Department of Environmental Quality, Water Pollution Control Regulations-1, Chapter 3, Section I (7)- Water Quality Certification.

⁷⁰ Seyfarth, *supra* note 7.

⁷¹ Boyd, *supra* note 18.

⁷² Bockenstette, *supra* note 19.

⁷³ Clark, *supra* note 35.

⁷⁴ 43 U.S.C. § 1356a.

⁷⁵ MISS. DEP'T OF MARINE RES., MISSISSIPPI COASTAL IMPACT ASSISTANCE PROGRAM, *available at* <http://www.dmr.state.ms.us/ciap/State-CIAP-INTRO-packet.pdf> (last visited June 28, 2007)

The MDWFP administers a Landowner Incentive Program (LIP) that focuses on conserving and restoring wildlife and habitats on private lands in three key regions throughout the state. One of the three regions is the Delta hardwood bottomlands, which are wetland and riparian habitats.⁷⁶ The primary goal of the LIP is to place lands into conservation easements; however, the Program also has projects focused on converting agriculture or harvested lands back into bottomlands.⁷⁷ The MDWFP works with Wildlife Mississippi, a non-profit organization, to administer this cost-share program. Funds are granted to projects based on a series of criteria such as number of acres, protections for threatened and endangered species, and willingness to roll land into a permanent easement.⁷⁸ All easements are managed by the Mississippi Land Trust.⁷⁹ The MDWFP monitors all projects for compliance and project success.⁸⁰

The MDEQ has partnered with Mississippi Wildlife Federation to carry out an Adopt-A-Stream Program. Although not focused specifically on wetlands, this Program includes streamside restoration, water quality monitoring, and watershed-wide surveying and monitoring.⁸¹ All these activities potentially benefit wetlands.⁸²

VI. Education and Outreach

The MDMR Coastal Preserves Program is responsible for the majority of the MDMR's education activities. Staff carries out several outreach programs for the general public and develops education posters and brochures. The Program also developed a citizen's guide to protecting wetlands, but it was destroyed during Hurricane Katrina.⁸³ The MDMR also is working on a permitting brochure and has an active public affairs office.⁸⁴ The Grand Bay National Estuarine Research Reserve (GBNERR),⁸⁵ which is co-managed by the MDMR and the National Oceanic and Atmospheric Administration (NOAA), has a variety of educational programs that target K-12 students, college-level students, and the public. It also offers training programs for professionals whose actions impact how state coastal resources are managed.⁸⁶

⁷⁶ MISS. DEP'T OF WILDLIFE, FISHERIES, AND PARKS, LANDOWNER INCENTIVE PROGRAM BROCHURE, *available at* <http://www.mdwfp.com/Level2/Wildlife/Lip/Brochure.pdf> (last visited June 28, 2007).

⁷⁷ Personal Communication with Russ Walsh, Dep't of Wildlife, Fisheries, and Parks (Nov. 13, 2006).

⁷⁸ MISS. DEP'T OF WILDLIFE, FISHERIES, AND PARKS, *supra* note 76.

⁷⁹ Walsh, *supra* note 77.

⁸⁰ MISS. DEP'T OF WILDLIFE, FISHERIES, AND PARKS, *supra* note 76.

⁸¹ Mississippi Wildlife Federation, *Adopt-A-Stream*, at http://www.mswildlife.org/education/adopt_a_stream.html (last visited June 28, 2007).

⁸² Personal Communication with Robert Seyfarth, Dep't of Env'tl. Quality (Nov. 6, 2006).

⁸³ Clark, *supra* note 35.

⁸⁴ *Id.*

⁸⁵ The GBNERR is a functional unit within the MDMR and considered a component of the National Estuarine Reserve Research System. This marine protected area was established not only to protect tidal and non-tidal wetlands as well as other important coastal habitats, but also to encourage and support education, research, and stewardship. *See* Grand Bay National Estuarine Reserve, *Administration*, at <http://grandbaynerr.org/admin/> (last visited Mar. 23, 2007). *See also* Grand Bay National Estuarine Reserve, *Our Estuary*, at <http://grandbaynerr.org/aboutus/> (last visited Mar. 23, 2007).

⁸⁶ *See* Grand Bay National Estuarine Research Reserve, *Education*, at <http://grandbaynerr.org/education/> (last visited Mar. 23, 2007). *See also* Grand Bay National Estuarine Research Reserve, *Coastal Training Program*, at <http://grandbaynerr.org/education/ctp/> (last visited Mar. 23, 2007).

MDWFP's Natural Science Museum has an extensive natural science education program, part of which is a wetlands program for fourth grade and older students. This program takes a hands-on approach. Students identify soil and plant types and test a variety of factors such as soil pH, dissolved oxygen content, and temperature.⁸⁷

The MDEQ has an education and outreach program for its §401 certification application process that targets developers and consultants. This program is designed to facilitate rebuilding from Hurricane Katrina. Although the program is not specific to wetland-related issues, the MDEQ stresses the importance of protecting wetlands to the developers through this program.⁸⁸

VII. Coordination with State and Federal Agencies

The MDEQ and the MDMR coordinate extensively on the coastal wetland permitting process and both agencies work closely with the Corps on §404/ §401 permitting issues. Both agencies participate on the MBRT. The MDMR also partners with NOAA to jointly manage the GBNERR.⁸⁹

VIII. Acronyms and Abbreviations

CIAP – Coastal Impact Assistance Program
CWA– Clean Water Act
EPA – U.S. Environmental Protection Agency
FTE – Full-time Equivalent
FSD – Field Services Division
GBNERR – Grand Bay National Estuarine Research Reserve
HGM – Hydro-geomorphic Approach
LIP – Landowner Incentive Program
MBRT – Mitigation Bank Review Team
MDEQ – Mississippi Department of Environmental Quality
MDMR – Mississippi Department of Marine Resources
MDOT – Mississippi Department of Transportation
MDWFP – Mississippi Department of Wildlife, Fisheries, and Parks
NOAA – National Oceanic and Atmospheric Administration
NWP – Nationwide Permit
WQS – Water Quality Standards
WRAP – Wetlands Rapid Assessment Procedures

⁸⁷Spencer, *supra* 40.

⁸⁸Seyfarth, *supra* note 82

⁸⁹Grand Bay National Estuarine Reserve, *Administration*, at <http://grandbaynerr.org/admin/> (last visited Mar. 23, 2007).